

LCLUC abstract

Development of an Integrated System of Ground-, Air- and Space-based Observations of Biomass Burning in Northern Eurasia

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The objective of the project is the development of a prototype integrated wildfire monitoring system over most of the territory of the Russian Federation, based on the synergetic use of ground-, air- and space-borne observations of fire activity. This development effort is laying the foundation for a future system that will be capable of providing fire data with known accuracy in a long-term, sustained manner with the purpose of supporting fire management decisions at federal, regional and local levels and providing high quality fire information for policy making and scientific analysis.

The data acquisition and preprocessing components of the system is organized through a network of regional and federal centers of wildfire monitoring in Russia. These Russian centers carry out the collection, processing and archival of satellite data - primarily from the Advanced Very High Resolution Radiometer (AVHRR), and potentially also from the Moderate Resolution Imaging Spectroradiometer (MODIS) - as well as ground- and air-based fire observations. The integration, analysis and interpretation of the data is coordinated by the US node, which is also responsible for the provision of data and products from MODIS.

Within the framework of this project principal attention is paid to the development of the space component of wildfire monitoring and to geo-information technologies for the combined processing of remote sensing, cartographic and auxiliary information. The development and implementation of these methods and technologies provides the opportunity for the delivery of a suite of fire products in a coherent and continuous manner over the whole territory of Northern Eurasia, including regions of Siberia and the Far East that are not protected and monitored by Russian authorities. Thus, the system represents a core to the Northern Eurasian regional network within the Fire Mapping and Monitoring theme of the Global Observation of Forest and Land Cover Dynamics (GOFC/GOLD). Data provided by the network will be useful for addressing the various scientific problems posed within the scope of the Northern Eurasian Earth Science Partnership Initiative (NEESPI).